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[54] **ALLOCATED AND DYNAMIC BANDWIDTH MANAGEMENT**

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[57] **ABSTRACT**

An ATM network switch and method of utilization for adaptively providing integrated services therein is disclosed. In providing such integrated services, if the allocated bandwidth for one connection has been consumed, or if the connection is not entitled to allocated bandwidth, the connection can optionally use dynamic bandwidth arbitration, or a combination of both allocated and dynamic. The switch includes an input port processor, a bandwidth arbiter, and an output port processor. Cells are transmitted from the input to the output, under the control of respective port processors and the bandwidth arbiter. Flow control is implemented on a per-connection basis. Individual queues are then assigned to traffic type groups in order to provide traffic type flow control. Based upon prioritization information associated with the cell at the input, cells are prioritized and transmitted from the output, with each cell maintained in the same order, relative to other cells on a connection, in which it was received.

51 Claims, 10 Drawing Sheets